Why is There Oil and Gas Here?

During the age of Dinosaurs, hundreds of millions of years ago, this area was covered by warm-shallow seas. Marine deposits of Permian, Triassic, Jurassic and Cretaceous ages underlie North Park. These sediments included sea-floor lime mud (now limestone), clayey muds (now shale), fine grained silts (now siltstone) and offshore and shoreline shoal and beach sands (now sandstone).

Mountain building at North Park began in latest Cretaceous and earliest Tertiary time with erosion of the uplifts yielding terrestrial basin-filling sediments of conglomerate (a mix of boulders, cobbles, sand and silt), sands, silts, and in flooded areas, peat (now coal) and muds.

Mountain building was renewed in later Tertiary time, with folding, faulting and warping of all the previous sedimentary rocks into the present structures. Oil and gas was trapped in the sandstone layers at the North and South McCallum (and Battleship) anticlines. Latest Tertiary to present day erosion beveled the basin to the present morphology and elevations with coal outcrops occurring at the flanks of these folds.

As shown in the diagrams below, oil and natural gases were formed from organisms that lived in these seas then died and sank to the sea floor. These dead organisms were subsequently buried in sediments, where, after all oxygen had been quickly consumed, anaerobic bacteria broke them down into organic compounds. After millions of years of deep burial and heat, this process produced crude oil, the substance from which petroleum products are made, and natural gasses, including carbon dioxide (CO_2). The lower density of the oil and of the gasses allowed them to slowly flow upward thorough permeable sandstones, where they were trapped in the anticlinal crests below impermeable shales.

Did You Know?

- Oil is the largest industry in the world.
- The first oil well in the United States was drilled in 1859, the first oil well in Colorado in 1862, (at the Florence field).
- The North McCallum field was first discovered and drilled in 1926.
- The average oil well in the United States produces about 17 barrels (714 gallons) per day.
- Carbon Dioxide (CO_2) is a colorless, odorless gas.
- The bubbles in soft drinks are created by CO_2.
- Dry ice, the solid, frozen form of CO_2, is widely used for refrigerating perishable goods over long distances.
- CO_2 is used to increase efficiency in oil recovery.
- The discovery well at N. McCallum was a CO_2 ì blow outî , with the uncontrolled release of CO_2 gas forming a frozen ì Ice Cream Coneî over the drill rig through the summer, until flow was ended.